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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,036	07/21/2005	Yasuyuki Goto	20441/0202715-US0	8433
7278	7590	05/25/2006	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			GARRETT, DAWN L	
			ART UNIT	PAPER NUMBER
			1774	
DATE MAILED: 05/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/543,036	<b>Applicant(s)</b> GOTO ET AL.	
	<b>Examiner</b> Dawn Garrett	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-34 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 35-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-21-2005</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This application is a 371 of PCT/JP03/00492, 1/21/2003.
2. The preliminary amendment has been entered. Claims 1-10 are cancelled. Claims 11-42 are pending.

#### *Claim Rejections - 35 USC § 102 and 103*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-30 and 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokito et al. (US 5,783,292). Tokito et al. discloses electroluminescent devices with organic-inorganic composite thin films (see title and abstract). The inorganic compound of the mixed organic-inorganic composite light emitting layer is made of metal fluorides (see col. 4, lines 28-30). This teaching encompasses all metal fluorides including transition metals, alkaline earth

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metals, and rare earth metals. D.C. voltage is the type of voltage used with the devices (see col. 11, line 10) per claim 12.

5. Claims 11-22 and 27-34 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liang et al. (US 5,871,579). Liang et al. discloses thin organic-inorganic perovskite films for electroluminescent devices using perovskite type layers (see abstract and col. 1, lines 25-31). The inorganic component of the perovskite is lead iodide (see Liang claim 12). Liang et al. teaches voltage is applied to electroluminescent devices per claim 12 (see col. 1, lines 29-31). In the alternative that Liang et al. is not sufficient to anticipate a direct current electroluminescent device with the disclosed perovskite layer, it would have been obvious to one of ordinary skill in the art at the time of the invention to have made a device comprising the perovskite layer, because Liang et al. teaches it is known to use a perovskite layer in an electroluminescent device to which voltage is applied.

6. Claims 11-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Seo et al. (US 2002/0101154). Seo et al. teaches an electroluminescent device comprising a mixed layer of organic compound CBP [4,4'-bis(carbazol-9-yl)biphenyl] and platinum complex "PtOEP" (see front page). Seo et al. teaches direct voltage (see par. 7) per claim 12.

7. Claims 19-26 and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokito et al. (US 5,783,292). Tokito et al. is relied upon as set forth above and clearly discloses metal fluorides as the inorganic component. In the alternative that Tokito et al. is not sufficient to anticipate an alkaline earth metal fluoride, rare earth fluoride, transition metal fluoride or a combination of these as the inorganic material. It would have been obvious to one of ordinary skill in the art to have used any of these fluorides and in combination as the metal fluoride,

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because alkaline earth metal fluoride, rare earth fluoride, and transition metal fluoride are metal fluorides and all would be expected to be suitable for the Tokito et al. luminescent layer.

***Allowable Subject Matter***

8. Claims 35-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art is discussed in this Office action. The prior art fails to teach or to render obvious an organic-inorganic dispersed composite layer comprising both 4,4'-bis(carbazol-9-yl)biphenyl and at least one of the recited halides.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett  
Primary Examiner  
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